

Aquatic Invasive Species Management

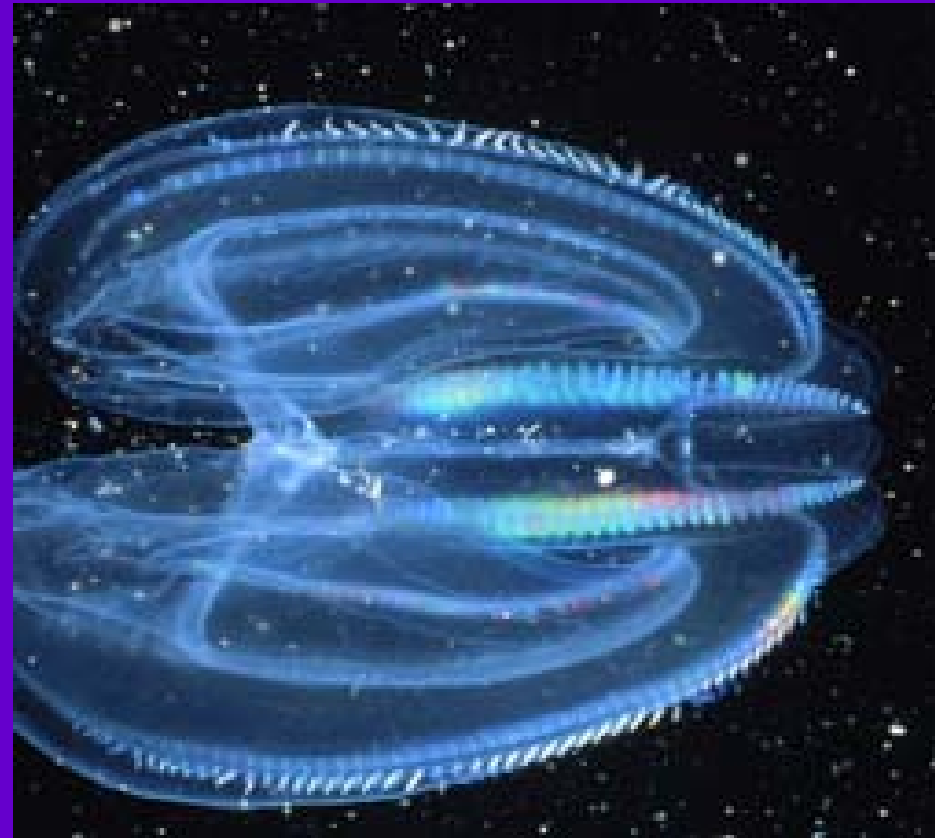
Washington Department of Fish and Wildlife

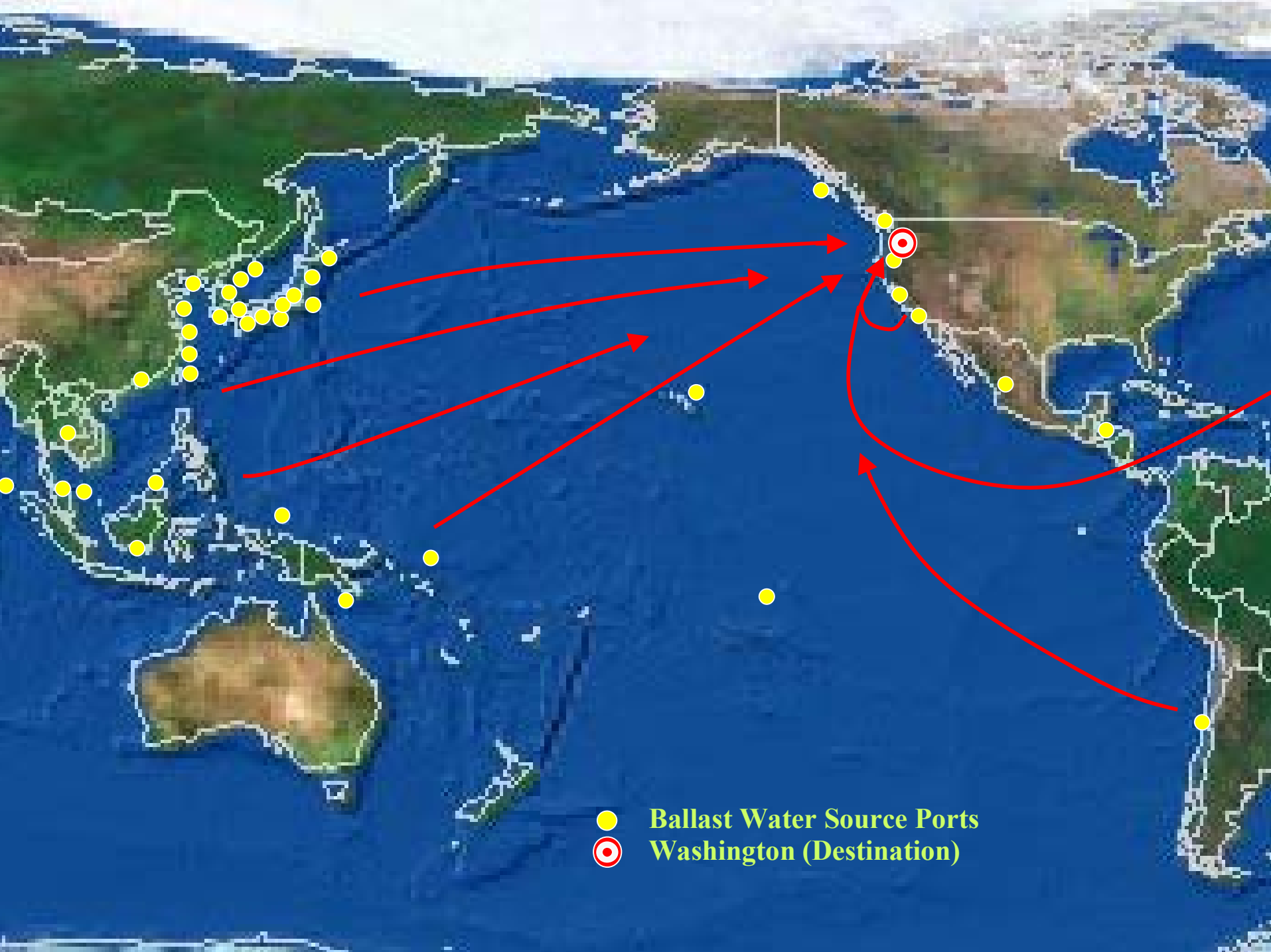


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Atlantic Comb Jellies Introduced into The Black and Caspian Seas

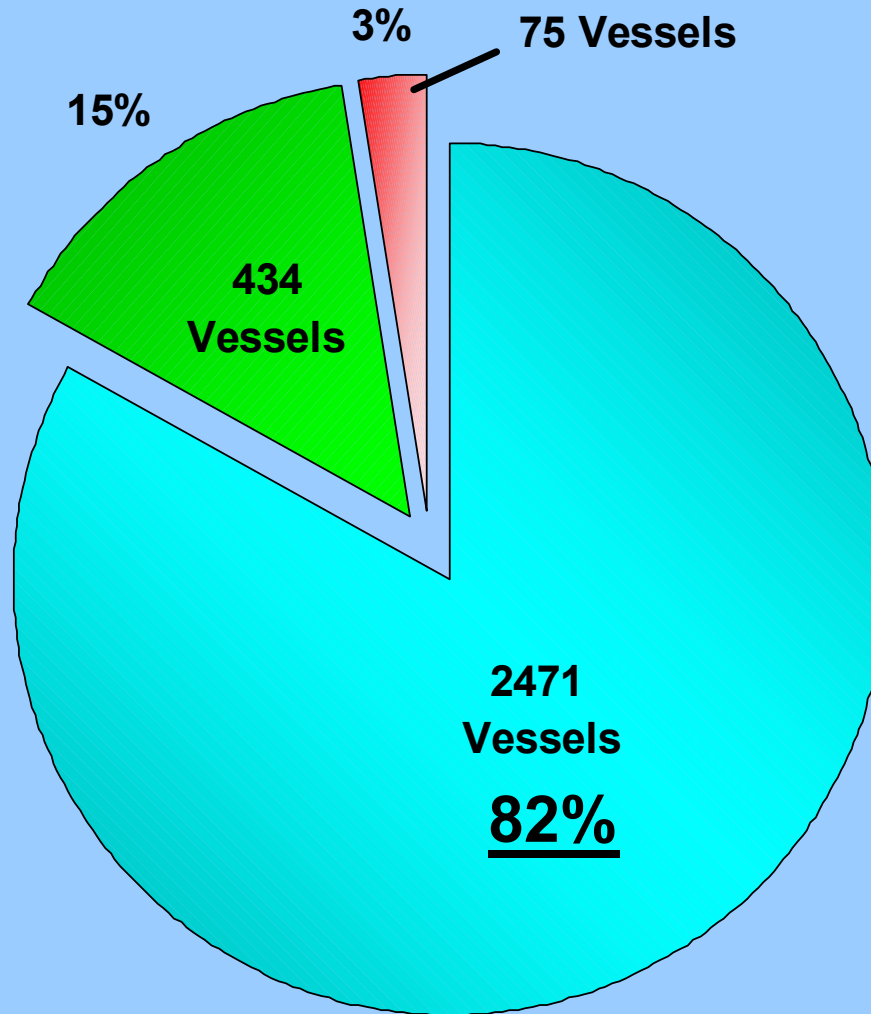
- Damaged Zooplankton Population
- Crashed anchovy and Kilka fisheries
- Put thousands of fishermen from six countries out of work
- Threaten the Caspian seal population





- Ballast Water Source Ports
- ⊙ Washington (Destination)

A larger perspective...



18% of the arrivals report discharge of ballast water

Of 75 (3%) vessels w/ unexchanged discharge, 4 vessels account for 54% of the volume.

2980 Total Vessel Arrivals

Is the data recorded on the Ballast Water Reports Accurate???

- Surveyed 81 vessels for compliance
- Chief mates were interviewed, vessel logs were compared to ballast reports, and exchange practices were analyzed. No fines.
- 24 of 81 vessels discharged improperly exchanged ballast – 83% (20 vessels) knowingly violated the law in some way.

Survey Results

- The major reason given for violation was the inability of regulators to detect violations. Other reasons included additional work required, and cost.
- 86% would rather treat their ballast than exchange.
- **Conclusions: Better methods are needed to verify exchange. When available, many vessel operators will be required to either improve their exchange practices or change to treatment.**

Washington State Actions to Implement Ballast Treatment

- **Established a standard for ballast treatment**
 - 95% kill or removal of zooplankton
 - 99% kill or removal of phytoplankton and bacteria
- **Established an interim approval process for ballast treatment methods**
- **Mandated treatment or exchange beginning July, 2004**
- **A report is due to the legislature in Dec. from the BWWG evaluating our ballast management program**



A Global Ballast Water Management Program Must be Phased-in

- New programs are easier to implement on a small scale
- The Washington State ballast management program will:
 - Begin to phase-in the use of ballast treatment and improve the IMO and CG's ability to create uniform national and international programs
 - Improve the biological, operational and cost effectiveness of treatment systems



Protecting our oceans from invasive species requires a cooperative effort

- **Vessel Operators**
- **Treatment vendors**
- **Port Authorities**
- **IMO, U.S. CG, and State Authorities**
- **Federal Agencies – NOAA, USFWS, USGS, EPA and the Maritime Administration**
- **Non-Governmental Organizations**
- **Universities**